ABSTRACT

Comblike, surfactant polymers for changing the surface properties of biomaterials are provided. Such surfactant polymers comprise a polymeric backbone of repeating monomeric units having functional groups for coupling with side chains, a plurality of hydrophobic side chains linked to said backbone via the functional groups, and a plurality of hydrophilic side chains linked to said backbone via the functional groups. The hydrophobic side chains comprise an alkyl group comprising from 2 to 18 methylene groups. The alkyl groups are linked to the polymeric backbone through ester linkages, secondary amine linkages, or, preferably, amide linkages. The hydrophilic side chain is selected from the group consisting of: a neutral oligosaccharide, which, preferably, has weight average molecular weight of less than 7000; a charged oligosaccharide, preferably a negatively charged oligosaccharide having a weight average molecular weight of less than 10,000; an oligopeptide of from about 3 to about 30 amino acid residues, said oligopeptide having an amino acid sequence which interacts with protein receptors on the surface of cells; and combinations thereof. Methods of making the surfactant polymers and using the surfactant polymers to alter the surface properties of a biomaterial are also provided.